

Claims

1. Process for the preparation of a full-ceramic dental restoration, comprising heat pressing of a tooth coloured pressing glass on a fully or partially supporting structure of yttria doped tetragonal zirconia (YTZP), comprised of yttria doped tetragonal zirconia ceramic having a grain size, as  
5 measured by the linear intercept method, of less than  $0.6\text{ }\mu\text{m}$ , wherein the pressing glass has a thermal expansion coefficient (TEC) of between  $9.0$  and  $11.0\text{ }\mu\text{m/m.K}$  (measured in the range of from  $25$  to  $500^{\circ}\text{C}$ ) and wherein the pressing glass has a pressing temperature of between  $750$  and  $1000^{\circ}\text{C}$ .
2. The process according to claim 1, wherein the supporting structure  
10 is comprised of densely sintered ceramic produced by CAD/CAM technology.
3. The process according to claim 2, wherein the ceramic is milled by a CAD/CAM-system in the green state or in a partially sintered state, and subsequent sintering to full density.
4. The process according to claim 1 or claim 2, wherein the supporting  
15 structure is milled out of a hot isostatically pressed zirconia.
5. The process according to claim 1, wherein the supporting structure is formed by electrophoretic deposition of zirconia from a slurry, followed by sintering to full density.
6. The process according to claim 1, wherein the structure is kept short  
20 by  $0.5$  to  $2.0\text{ mm}$  and the pressing glass is forming an aesthetically pleasing shoulder without showing the core at the margin.
7. The process according to any one of the claims 1-6, wherein a liner is applied to the supporting zirconia structure with a melting point less than  $50^{\circ}\text{C}$  lower than the pressing temperature of the pressing glass.
- 25 8. The process according to any one of claims 1-7, wherein the connector to the press pellet reservoir and the specimen is a continuous flow plate having a thickness of  $1.5$ - $2.5\text{ mm}$ .

9. Full-ceramic dental restoration, comprising a fully or partially supporting structure of yttria doped tetragonal zirconia (YTZP) and a heat pressed tooth coloured pressing glass, which restoration is modelled to be in occlusal contact with opposing teeth and in mesio-distal contact with
- 5 neighbouring teeth.
10. The full-ceramic dental restoration of claim 9, obtainable by the process of any one of the claims 1-8.